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Data Needs	Testing Standard		Remedial Design Component	
	ASTM	COE[1]	Dredgeability[2]	Potential Cover / Cap [3]
Geotechnical / Physical				
Appearance (consistency, smell, color)	Visual, D3213, D2488		*	*
Visual stratification between clean / contaminated	Visual		*	
Bulk Density (or unit weight)	D653, D2937		*	*
Solids Fraction (solids content by weight)			*	*
Weight fraction (percent sand, etc... by weight)	D422		*	*
Volume fraction (percent sand, etc... by volume)	D2488		*	*
Debris, Cohougs, Obstructions			*	*
Pore Water Salinity	D4542			*
Organic content	D653, D2974		*	
Specific Gravity of solids	D854	IV	*	*
Dry density (or dry unit weight)	D653			*
Saturated unit weight	D653			*
Poisson's Ratio	D638			*
Young's Modulus				*
Grain size analysis (sieve and hydrometer)	C117, C136, D421, D422 D1140, D2217, D422		*	*
Classification (gravels, sands, silts, clay by weight / sieve and hydrometer)	C117, D140, D487, PIANC		*	*
Median grain size (D$_{50}$, by weight)	C136, D422		*	*
Grain angularity and shape	D2488		*	*
Atterberg limits (PI, LL) for cohesive materials	D421, D4318	III	*	*
Water content by solids weight	D2216, D4643, D653	I	*	*
Porosity (Voids volume/total volume)	D653		*	*
Void ratio (Voids volume/solids volume)	D653		*	*
Unit weight of water			*	
Hydraulic Conductivity	D5084			*
Shear strength of soft cohesive materials (Torvane, Pocket Penetrometer)	D4767, D4648, D2850, D2573(in situ), PIANC		*	*
Consolidation	D 2435	VIII		*
Angle of repose for slope stability	D653		*	*
Permeability	D6527, D2434	VII		*

Notes:
[1] EM-1110-2-1906
[2] Includes Dredging, Excavation, Transport, Residuals Management, Process Design
[3] Includes Potential Residual Cover, Backfill, In-Situ Treatment / Amendment, RCM, Engineered Cap Design

Data Needs	Testing Standard		Remedial Design Component	
	ASTM	COE[1]	Dredgeability[2]	Potential Cover / Cap[3]
Hydrodynamic Modeling for Erosion Analyses				*
Establish Design Storm recurrence intervals				*
Bathymetry scenarios				*
Water level, tides, SLR				*
River inflow				*
Bottom roughness				*
Windspeed and direction				*
Wave regime				*
Bottom currents				*
Vessel Scour				*
Propwash modeling				*
Grounding / anchor drag characterization				*
Ice Scour				*
Ice scour mechanism characterization				*
Contaminant Release Mechanisms				*
Advection				*
Diffusion				*
Gas ebullition				*
Bioturbation				*
Contaminant Transformation				*
Degradation by natural processes				*
Sorption / reaction capacity of active material				*
Groundwater flux				*
Benthic Flux Chamber				*
Pore Water Probe				*
Physical Stability				*
Bearing Capacity				*
Slope Stability				*
Consolidation				*
Other				
Dredging Elutriate Test			*	
Hydrogen Sulfide (H_2S)			*	
STFATE / LTFATE (LHCC CAP)				*
Biofouling				*
Ecological Function / Habitat Goals				*
Imported Material Sources				*

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